CLAIMS

What is claimed is:

1. A non-human transgenic mammal whose genome comprises a transgene comprising a promoter comprising the nuclear factor binding region of the RR2 cis acting element of an FGF1B promoter, and a DNA fragment comprising a sequence encoding the SV40 large T antigen, wherein said promoter is operably linked to said DNA fragment, and wherein said mammal comprises a tumor whose cells lack immunodetectable levels of glial fibrillary acidic protein, S-100, synaptophysin and neuron-specific enolase.

2. The transgenic mammal of claim 1 wherein the transgenic mammal is a mouse.

3. The transgenic mammal of claim 2 wherein the nuclear binding region of the RR2 cis acting element of the FGF1B promoter comprises SEQ ID NO. 1.

4. The transgenic mammal of claim 2 wherein the promoter is derived from the human FGF 1B promoter and comprises in order an RR2 cis acting element, an RR1 cis acting element, and the proximal promoter of the human FGF1B promoter.

5. The transgenic mammal of claim 2 wherein the promoter comprises nucleotide -540 through nucleotide +31 of the human FGF1B promoter.

6. The transgenic mammal of claim 2 wherein the promoter is a chimeric promoter and comprises a heterologous proximal promoter operably linked to the nuclear factor binding region of the RR2 cis acting element of an FGF1B promoter.

7. The transgenic mammal of claim 6 wherein the nuclear factor binding region of the RR2 cis acting element of an FGF1B promoter is upstream of the heterologous proximal promoter.

8. The transgenic mammal of claim 6 wherein the heterologous promoter is the minimal tk promoter.

9. The transgenic mammal of claim 2 wherein the promoter is derived from a nonhuman animal and comprises a sequence which is homologous to the human FGF1B promoter of claim 4.

10. The transgenic mammal of claim 2 wherein the promoter is derived from a gene in a nonhuman animal and comprises a sequence which is homologous to the human FGF1B promoter of claim 5.

11. The transgenic mammal of claim 2 wherein the promoter is derived from a mouse and comprises the RR2 cis acting element, RR1 cis acting element, and proximal promoter of the FGF1B promoter of mouse.

12. A DNA construct comprising a transgene comprising an active portion of the FGF1B promoter operably linked to a sequence encoding the SV40 large T antigen.

13. The DNA construct of claim 12 wherein the promoter comprises nucleotides -540 to +31 of the human FGF-1B promoter.

14. The DNA construct of claim 12 wherein the SV40 large T antigen encoding sequence comprises an intron within said sequence.

15. A method for identifying a drug which is effective at inhibiting of the growth of brain tumors in a mammal, comprising:

a) administering a candidate drug to the transgenic mammal of claim 1; and

b) assaying for the growth of brain tumors in said transgenic mammal, wherein an inhibition of growth of brain tumors in said mammal as compared to transgenic mammals of claim 1 which have not received the candidate drug indicates that said candidate drug is effective at inhibiting the growth of brain tumors in mammals, or prolonged the survival time in treated transgenic mammals than the untreated, or placebo-treated mammals.

16. A tumor cell line derived from the tumor cells of the transgenic mammal of claim 1.

17. The tumor cell line of claim 16 wherein the transgenic mammal is a mouse.

18. The tumor cell line of claim 17 wherein the genome of the transgenic mouse comprises a transgene which comprises a promoter derived from the human FGF 1B promoter and comprises in order the RR2 cis acting element, the RR1 cis acting element, and the proximal promoter of the human FGF1B promoter.

19. The tumor cell line of claim 18 wherein the cell line has ATCC Patent Deposit Designation No. PTA-3661.

20. A non-human, transgenic mammal whose genome comprises a transgene comprising a promoter comprising the nuclear factor binding region of an RR2 cis acting element of an FGF1B promoter, and a reporter gene comprising a sequence encoding an assayable product, wherein said promoter is operably linked to said reporter gene, and wherein said transgenic mammal comprises transformed brain cells that comprise said assayable product and lack immunodetectable levels of glial fibrillary acidic protein, S-100, synaptophysin and neuron-specific enolase.

21. The transgenic mammal of claim 20 wherein the transgenic mammal is a mouse.

22. The transgenic mammal of claim 20 wherein the nuclear binding region of the RR2 cis acting element of the FGF1B promoter comprises SEQ ID NO. 1.

23. The transgenic mammal of claim 20 wherein the promoter is derived from the human FGF 1B promoter and comprises in order RR2 cis acting element, RR1 cis acting element, and the proximal promoter of the human FGF1B promoter.

24. The transgenic mammal of claim 20 wherein the promoter comprises nucleotide -540 through nucleotide +31 of the human FGF1B promoter.

25. The transgenic mammal of claim 20 wherein the promoter is a chimeric promoter and comprises a heterologous proximal promoter operably linked to the nuclear factor binding region of the RR2 cis acting element of an FGF1B promoter.

26. The transgenic mammal of claim 25 wherein the nuclear factor binding region of the RR2 cis acting element of an FGF1B promoter is upstream of the heterologous proximal promoter.

27. The transgenic mammal of claim 25 wherein the heterologous promoter is the minimal tk promoter.

28. The transgenic mammal of claim 20 wherein the promoter is derived from a nonhuman animal and comprises a sequence which is homologous to the human FGF1B promoter of claim 4.

29. The transgenic mammal of claim 20 wherein the promoter is derived from a gene in a nonhuman animal and comprises a sequence which is homologous to the human FGF1B promoter of claim 5.

30. The transgenic mammal of claim 20 wherein the promoter is derived from a mouse and comprises the RR2 cis acting element, RR1 cis acting element, and proximal promoter of the FGF1B promoter of mouse.

31. The transgenic mammal of claim 20 wherein the reporter gene encodes a cell membrane protein, a fluorescent protein, a product which permits selection of said transformed brain cells in a selection medium, or a protein product which can be detected by antibodies using immunohistochemistry.

32. A mammalian cell line derived from the transformed brain cells of the transgenic mammal of claim 20.

33. The mammalian cell line of claim 32 wherein the transgenic mammal is a mouse.

34. A method for obtaining neural stem cells from a population of cells obtained from an animal, comprising:

a) incorporating an FGF1B-detector transgene into a sample of cells obtained from the animal; and

b) assaying for expression of the assayable product encoded by the reporter gene of the transgene, wherein cells that express the assayable product are neural stem cells; and

c) isolating the cells that express the assayable product from the population to provide a sub-population of neural stem cells.

35. The method of claim 34 wherein the sample is obtained from a human.

36. The method of claim 34 wherein the sample is a brain tissue sample.